
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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ZINC IN MAY 1997

Domestic mine production in May, expressed in zinc content of concentrate, increased by about 4% over the previous month's production, but was 2% below that of May 1996. The smelter production was about 2% higher than in April and 7% higher than a year ago. Apparent consumption decreased by about 21% compared with consumption in April but was about 10% above that of May 1996.

The Platt's Metals Week composite price for North American Special High Grade zinc increased by 4.8%.

Following the upward trend in zinc prices, secondary zinc prices, primarily dust and oxide, have risen during the last few months. The European market is particularly active in secondary zinc, where new diecast scrap is trading at about 70% of the cash price for slab zinc on the London Metal Exchange (LME), while dross is trading at about 62% of this price (Metal Bulletin, 1996f).

After a substantial decline in the level of LME stocks during the first quarter of 1997, the decline in stocks slowed to around 7,000 tons in May. The slowdown could be a consequence of increased Chinese exports of refined zinc, which in the first quarter of 1997 increased by more than 100%, compared to the same period in 1996. A partial recovery from the current under-supply of refined zinc may come from planned increases in capacity at existing smelters. India's Binani Zinc Ltd. is planning to double the annual capacity of its Kerala smelter to 60,000 tons, while Hindustan Zinc Ltd. is preparing to add 20,000 tons to the total capacity of its three smelters in this fiscal year. Zinc Corporation of South Africa Ltd.'s feasibility study to increase the capacity of its 100,000-ton smelter by 20% has been delayed to investigate further the environmental impact of the capacity increase (Metal Bulletin, 1996b).

Phelps Dodge Corp. has acquired a minority interest in a Peruvian zinc mining company, Compañía San Ignacio de Morococha S.A. (SIMSA). Under the purchasing agreement,

Phelps Dodge has acquired an indirect 40% voting interest, representing an indirect 27% economic interest in SIMSA and its San Vicente Mine (Phelps Dodge Corporation, 1996). According to the International Lead and Zinc Study Group, the underground mine was opened in 1970 and has a daily mill capacity of 3,000 tons. Production in the first quarter of 1997 was 24,000 tons of zinc in concentrate.

The biggest hurdle in the development of the Century Mine in north Queensland, Australia, has been cleared. At the beginning of May, Rio Tinto (formerly RTZ-CRA) announced the signing of an agreement between all 12 Aboriginal native title claimants and Century Zinc Ltd. The agreement settles compensation, secures Aboriginal support, establishes a framework for long-term cooperation, and provides financial benefits for Aboriginal communities. In return, the agreement enables Century Zinc to acquire secure titles to the mine site, port facilities, and a 300-kilometer pipeline corridor connecting the mine and the port. As soon as titles are secured, sale of Century Zinc to Pasminco Mining of Australia will become final. Pasminco agreed in January to the purchase of Century Zinc for \$272 million, contingent on acquiring all the necessary permits to start operation. Development of the mine should take about 2 years. Approximately one-half of the planned 450,000-ton annual production of concentrate is earmarked for Pasminco's 200,000-ton-per-year Budel zinc smelter in the Netherlands (Platt's Metals Week, 1996b).

Anvil Range Mining Corp.'s Faro mine is likely to reopen in the second half of 1997, once the appropriate financing is arranged. The reopening is contingent on improved recoveries, further price increases for zinc metal, lower hydro-electric power rates, and reduced road tariffs. Initial production at the mine should be around 40,000 tons of lead-zinc concentrate per month, provided the ore grades are as expected. Before closure in December 1996, the Faro Mine had an annual capacity of

180,000 tons of zinc in concentrate (Platt's Metals Week, 1996a). Proven and probable reserves at the Faro deposit are said to be 35.2 million tons grading 8.34% combined lead and zinc (Metal Bulletin, 1996a).

An attempt to increase efficiency through privatization continues to appeal to many governments. In Spain, Ireland's Navan Resources completed the acquisition of Minas de Almagrera S.A. from the government-owned Sociedad Estatal de Participaciones Industriales (SEPI). Navan now owns 99.97% of Almagrera, which mines and processes copper, lead, and zinc ore at Sotiel, southern Spain (Metal Bulletin, 1996c).

Glencore International, a Swiss trading and investment company, currently is attempting to gain a minority stake in the Peruvian smelter-refinery La Oroya, through the purchase of shares in Grupo Industrias Peñoles of Mexico. Peñoles, which in April 1997 acquired a 51% interest in La Oroya for \$185 million, beating Glencore's bid of \$85 million, has increased its holding to 60%. The remaining 40% will be distributed between the state and workers at the complex (Metal Bulletin, 1996d).

On April 30, 1997, the sale of Centromin's (Empresa Minera del Centro del Perú S.A.) Yauliyacu polymetallic mine was finalized. The new owner will be Cía. Minera Yuracmayo, a

local subsidiary of Cía. Minera Casapalca of Peru. Glencore, which has a minority stake in Yuracmayo, will provide technical and administrative assistance. The deposit contains 7.3 million tons of proven and probable reserves (Metal Bulletin, 1996e).

References Cited

- Metal Bulletin, 1996a, Anvil Range looks to raise \$30m for Faro: Metal Bulletin, no. 8187, June 16, p. 7.
———1996b, Market reaches new high as deficit grows: Metal Bulletin, no. 8182, May 29, p. 5.
———1996c, Navan completes acquisition of Almagrera in Spain: Metal Bulletin, no. 8181, May 26, p. 13.
———1996d, Peñoles buys 60% of La Oroya: Metal Bulletin, no. 8180, May 22, p. 5.
———1996e, Sale of Yauliyacu to Casapalca successfully completed: Metal Bulletin, no. 8175, May 5, p. 5.
———1996f, Zinc scrap trade remains strong in Europe: Metal Bulletin, no. 8182, May 29, p. 12.
Phelps Dodge Corporation, 1996, Phelps Dodge acquires minority interest in Peruvian zinc mine: Phoenix, AZ, Phelps Dodge Corporation press release, May 6.
Platt's Metals Week, 1996a, Anvil Range pegs Q4 start-up at Faro: Platt's Metals Week, May 19, p. 3.
———1996b, Deal paves way for Century Zinc development: Platt's Metals Week, May 12, p. 1, 7.

TABLE 1
SALIENT ZINC STATISTICS 1/

(Metric tons)

	1996			1997			
	May	Jan.-May	Jan.-Dec. p/	March	April	May	Jan.-May
Production:							
Mine, zinc content of concentrate	53,100	259,000	603,000	48,000	50,200	52,000	247,000
Mine, recoverable zinc	50,700	247,000	575,000	45,800	47,900	49,700	235,000
Smelter, refined zinc	30,500	151,000	366,000	31,300	31,900 r/	32,600	158,000
Oxide (gross weight)	13,400 r/	66,800 r/	156,000 r/	13,400	14,300	14,300	67,200
Consumption:							
Refined zinc, reported	56,300 r/	283,000 r/	661,000	48,600 r/	50,600 r/	48,100	235,000
Ores e/ (zinc content)	150 r/	600 r/	1,800	150	150	150	600
Zinc-base scrap e/ (zinc content)	8,300 r/	33,200 r/	100,000	8,300	8,300	8,300	33,200
Copper-base scrap e/ (zinc content)	14,000 r/	56,000 r/	170,000	14,000	14,000	14,000	56,000
Aluminum- and magnesium-base scrap e/ (zinc content)	67 r/	268 r/	800	67	67	67	268
Total e/	78,800 r/	373,000 r/	933,000	71,100 r/	73,100 r/	70,600	325,000
Apparent consumption, metal 2/	108,000 r/	488,000 r/	1,210,000	98,000 r/	151,000 r/	119,000	590,000
Stocks of refined (slab) zinc, end of period:							
Producer 3/	8,040 r/	XX	XX	11,600	12,300 r/	12,100	XX
Consumer 4/	62,900 r/	XX	XX	55,900 r/	54,400 r/	55,700	XX
Merchant	3,050	XX	XX	5,590	5,260	5,110	XX
Total	74,000 r/	XX	XX	73,200 r/	72,000 r/	72,900	XX
Shipments of zinc metal from Government stockpile	--	2,680	16,500	5,080	13,400	7,600	33,500
Imports for consumption:							
Refined (slab) zinc	74,100	331,000	827,000	62,300	104,000	NA	321,000 5/
Oxide (gross weight)	5,290	25,000	56,300	6,230	5,060	NA	21,200 5/
Ore and concentrate (zinc content)	13	977	15,100	21	12,500	NA	15,200 5/
Exports:							
Refined (slab) zinc	281	540	1,970	242	343	NA	1,110 5/
Oxide (gross weight)	461	2,810	5,770	505	321	NA	1,730 5/
Ore and concentrate (zinc content)	3,080	22,500	425,000	5,750	17,300	NA	41,000 5/
Waste and scrap (gross weight)	3,990	22,700	45,500	5,710	4,360	NA	16,500 5/
Price:							
London Metal Exchange, average, per metric ton	\$1,036.14	\$1,113.99	\$1,025.03	\$1,254.80	\$1,240.40	\$1,310.51	\$1,214.32
Platt's Metals Week North American Special High Grade, average, ¢ per pound	50.50	50.73	51.11	62.69	61.97	64.94	60.80

e/ Estimated. p/ Preliminary. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices; may not add to totals shown.

2/ Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

3/ Data from U.S. Geological Survey and American Bureau of Metal Statistics.

4/ Includes an estimate for companies that report annually.

5/ Includes data through April only.

TABLE 2
REFINED ZINC PRODUCED IN THE UNITED STATES 1/

(Metric tons)

Month	Beginning stocks 2/	Production	Shipments	Ending stocks 2/
1996: p/				
Jan.-May	XX	151,000	151,000	XX
May	8,280	30,500	30,800	8,040
June	8,040	30,400	30,300	8,130
July	8,130	30,800	30,100	8,830
August	8,830	27,400	26,800	9,380
September	9,380	30,800	30,600	9,600
October	9,600	32,300	31,700	10,100
November	10,100	32,000	30,200	11,900
December	11,900	31,200	32,100	11,100
Total	XX	366,000	362,000 r/	XX
1997:				
January	11,100	32,700	32,500	11,300
February	11,300	29,300	29,900	10,800
March	10,800	31,300	30,500	11,600
April	11,600	31,900 r/	31,200 r/	12,300 r/
May	12,300	32,600	32,800	12,100
Jan.-May	XX	158,000	157,000	XX

p/ Preliminary. r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes stocks held at locations other than smelters.

Sources: U.S. Geological Survey and American Bureau of Metal Statistics.

TABLE 3
ZINC OXIDE PRODUCED 1/ IN THE UNITED STATES 2/

(Metric tons, gross weight)

Month	Beginning stocks	Production	Shipments	Ending stocks
1996: p/				
Jan.-May r/	XX	66,800	70,500	XX
May r/	3,470	13,400	13,600	3,330
June r/	3,330	12,600	12,200	3,740
July r/	3,740	11,500	12,000	3,280
August r/	3,280	12,300	12,600	3,000
September r/	3,000	12,500	12,200	3,260
October r/	3,260	13,500	13,500	3,200
November r/	3,200	13,500	13,500	3,180
December	3,180 r/	13,800 r/	13,500 r/	3,480
Total r/	XX	156,000	160,000	XX
1997:				
January	3,480	13,000	13,300	3,190
February	3,190	12,200	12,000	3,380
March	3,380	13,400	12,700	4,120
April	4,120	14,300	14,100	4,290
May	4,290	14,300	14,500	4,170
Jan.-May	XX	67,200	66,500	XX

p/ Preliminary. r/ Revised. XX Not applicable.

1/ Excludes impure zinc oxide produced from other processes.

2/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 4
ESTIMATED DISTRIBUTION 1/ OF ZINC OXIDE SHIPMENTS BY INDUSTRY 2/ 3/

(Metric tons, gross weight)

Industry	1996			1997			
	May r/	Jan.-May r/	Jan.-Dec. p/ r/	March	April	May	Jan.-May
Agriculture	W	W	W	W	W	W	W
Ceramics	642	2,760	6,180	352	475	484	2,230
Chemicals	2,850	14,500	32,700	2,810	3,410	3,520	14,800
Paints	577	3,100	6,790	518	596	599	2,770
Photocopying	W	W	W	W	W	W	W
Rubber	8,970	47,200	108,000	8,530	9,050	9,290	44,100
Other	528	2,950	6,260	469	565	561	2,610
Total	13,600	70,500	160,000	12,700	14,100	14,500	66,500

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Distribution of U.S. producers only. Imports excluded because distribution by industry cannot be distinguished.

2/ May include in-house consumption.

3/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 5
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO INDUSTRY USE AND PRODUCT 1/

(Metric tons)

Industry and product	1996			1997			
	May r/	Jan.-May r/	Jan.-Dec. p/	March r/	April r/	May	Jan.-May
Galvanizing:							
Sheet and strip	44,000	198,000	494,000	40,700	62,600	47,000	245,000
Other	14,700	61,900	160,000	13,000	23,300	17,600	86,900
Total	58,600	259,000	654,000	53,700	86,000	64,600	332,000
Brass and bronze	14,700	62,000	155,000	13,000	20,900	16,000	80,500
Zinc-base alloy	18,800	86,500	229,000	19,000	27,600	22,300	106,000
Other uses 2/	15,900	80,500	172,000	12,400	16,600	16,200	71,700
Total	108,000	488,000	1,210,000	98,000	151,000	119,000	590,000

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes zinc used in making zinc dust, wet batteries, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, zinc oxide, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 6
AVERAGE MONTHLY ZINC PRICES

Month	North American Special High Grade, ¢/lb	LME cash	
		¢/lb	\$/mt
1996:			
May	50.50	46.98	1,036.14
June	49.57	45.75	1,008.85
July	49.87	45.36	1,000.39
August	51.26	45.67	1,007.24
September	51.39	45.37	1,000.64
October	51.52	45.50	1,003.46
November	53.31	47.47	1,046.83
December	52.77	47.00	1,036.26
Year average	51.11	46.50	1,025.03
1997:			
January	55.17	49.28	1,086.52
February	59.26	53.50	1,179.38
March	62.69	56.92	1,254.80
April	61.97	56.26	1,240.40
May	64.94	59.44	1,310.51

Source: Platt's Metals Week.

TABLE 7
U.S. EXPORTS OF ZINC 1/

Material	1996		1997			
			April		Year to date 2/	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	1,970	\$2,350	343	\$483	1,110	\$1,400
Ore and concentrate (zinc content)	425,000	190,000	17,300	5,520	41,000	15,200
Waste and scrap (gross weight)	45,500	30,300	4,360	3,380	16,500	11,200
Powders , flakes, and dust (zinc content)	11,100	21,400	843	1,600	2,910	5,690
Oxide (gross weight)	5,770	9,430	321	471	1,730	3,600
Chloride (gross weight)	1,470	1,230	476	295	1,190	793
Sulfate (gross weight)	5,230	2,970	285	175	1,350	827
Compounds, other (gross weight)	1,250	4,670	15	59	99	386

1/ Data are rounded to three significant digits.

2/ Data for the current month were not available at time of publication.

Source: Bureau of the Census.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF ZINC 1/

Material	1996		1997			
			April		Year to date 2/	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	827,000	\$882,000	104,000	\$130,000	321,000	\$371,000
Ore and concentrate (zinc content)	15,100	6,380	12,500	5,520	15,200	6,690
Waste and scrap (gross weight)	31,900	12,800	2,850	1,170	10,300	4,220
Powders , flakes, and dust (zinc content)	10,300	17,600	820	1,590	3,180	5,940
Oxide (gross weight)	56,300	57,500	5,060	5,850	21,200	23,100
Chloride (gross weight)	2,420	2,140	432	89	820	441
Sulfate (gross weight)	4,050	2,840	63	427	2,000	1,180
Compounds, other (gross weight)	1,190	1,280	77	109	409	518

1/ Data are rounded to three significant digits.

2/ Data for the current month were not available at time of publication.

Source: Bureau of the Census.

TABLE 9
SHIPMENTS OF ZINC METAL FROM THE NATIONAL DEFENSE
STOCKPILE 1/

(Metric tons)

Month	Beginning inventory	Shipments	Ending inventory
1996:			
May	271,000	--	271,000
June	271,000	1,430	270,000
July	270,000	1,870	268,000
August	268,000	1,460	266,000
September	266,000	2,550	264,000
October	264,000	1,630	262,000
November	262,000	2,810	259,000
December	259,000	2,110	257,000
Total	XX	16,500	XX
1997:			
January	257,000	3,020	254,000
February	254,000	4,400	250,000
March	250,000	5,080	245,000
April	245,000	13,400	231,000
May	231,000	7,600	224,000
Year to date	XX	33,500	XX

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Defense Logistics Agency.

TABLE 10
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY 1/

(Metric tons)

Material and country	General imports			Imports for consumption		
	1997 2/			1997 2/		
	1996	April	Year to date	1996	April	Year to date
Ore and concentrate (zinc content):						
Australia	--	9,930	9,930	--	9,930	9,930
Mexico	7,000	2,530	5,280	6,970	2,530	5,280
Peru	10,000	--	263	8,080	--	--
Other	322	114	150	91	--	--
Total	17,300	12,600	15,600	15,100	12,500	15,200
Blocks, pigs, or slab:						
Brazil	32,000	--	9,360	32,000	--	9,360
Canada	503,000	42,400	164,000	503,000	42,400	164,000
Finland	18,300	4,000	11,000	18,300	4,000	11,000
Mexico	93,900	4,060	20,500	93,900	4,060	20,500
Peru	23,800	900	5,850	23,800	900	5,850
Russia	24,100	4,210	7,640	24,100	4,210	7,640
Spain	83,200	26,300	55,100	91,400	28,900	65,300
Sweden	--	12,500	12,500	--	--	--
Other	40,500	19,900	37,400	40,900	19,900	37,400
Total	819,000	114,000	323,000	827,000	104,000	321,000
Dross, ashes, & fume (content)	15,800	1,660	5,320	15,800	1,660	5,320
Grand total	852,000	129,000	344,000	858,000	119,000	342,000
Oxide (gross weight):						
Canada	28,600	2,770	11,100	28,600	2,770	11,100
China	2,070	161	514	2,070	161	514
Mexico	21,400	1,820	7,360	21,400	1,820	7,360
Other	4,420	311	2,160	4,310	311	2,160
Total	56,400	5,060	21,200	56,300	5,060	21,200
Other (gross weight):						
Waste and scrap	31,900	2,850	10,300	31,900	2,850	10,300
Sheets	16,900	810	8,530	16,900	810	8,530
Dust, powder, flakes	10,300	820	3,180	10,300	820	3,180

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data for the current month were not available at time of publication.

Source: Bureau of the Census.